Remarks

The Applicant respectfully requests consideration for continued examination under 37 C.F.R. § 1.114.

Claims 1 through 19 are pending in the above-identified application. By this amendment, the Applicant has amended claim 1 to recite a "computerized" method. The amendment to claim 1 is supported by the application as originally filed and does not introduce new matter. Further, the amendment to claim 1 is for clarification purposes only and is not intended to limit the scope of the claims in any way. Accordingly, entry of the amendment to claim 1 is respectfully requested. Additionally, the Applicant respectfully presents claim 19 for consideration and allowance.

In the Office Action dated September 21, 2005, the Examiner rejects claims 1 through 18 under 35 U.S.C. §101 as being directed to non-statutory subject matter. The Examiner further rejects pending claims 1 through 18 under 35 U.S.C § 102(b) as being anticipated by U.S. Patent No. 6,094,651 to Agrawal ("Agrawal"). The Applicant respectfully traverses the rejections and asserts that the claims pending in the present application are patentable for at least the reasons stated below.

The Examiner asserts that claims 1 through 9 "are not limited to practice in the technological arts," and therefore concludes that the "claims are not considered to be statutory." Office Action, p. 2. Pursuant to the decision in *Ex parte Lundgren*, "there is currently no judicially recognized separate 'technological arts' test to determine patent eligible subject matter under § 101." *Ex parte Lundgren*, Appeal No. 2003-2088 p. 10 (Bd. Pat. App. & Int. 2005). Moreover, the Federal Circuit has ruled that in determining patentable subject matter under 35 U.S.C. § 101 the relevant test is whether the invention

produces a useful, concrete and tangible result. _State Street Bank_, 47 U.S.P.Q. 2d 1596 (Fed. Cir. 1998). Independent claim 1 recites "flagging [a] data item as an anomalous data item," which comprises a useful, concrete and tangible result.

The Examiner additionally asserts that claims 1 through 9 "could be executed by using pencil and paper in its simplest case without necessarily using a computer." Office Action, p. 2. In light of the Applicant's amendment to claim 1, the Examiner's rejection is now moot.

The Examiner further asserts that claims 10 through 18 "use a computer to execute method claims 1-9" and therefore "merely claim nonfunctional descriptive material stored in a computer-readable medium." Office Action, p. 2. The Applicant respectfully disagrees with the Examiner. As previously noted, claims 1 through 9 qualify as patentable subject matter under 35 U.S.C. § 101, _Ex parte Lundgren_ and in light of the Applicant's amendment. Therefore, despite the Examiner's assertion, claims 10 through 18 describe computer readable media comprising program code, the program code instructing a programmable computer to execute the patentable method described in claims 1 through 9.

Moreover, the Examiner asserts "a computer readable media does not specify that the media is physical and permanent but could be a carrier wave that is fleeting." Office Action, p. 2. While the Applicant agrees with the Examiner's assertion that "computer readable media" may be interpreted as including a carrier wave, such an interpretation does not preclude patentability under 35 U.S.C. § 101 as a signal or carrier wave constitutes a useful, concrete and tangible result under the aforementioned State Street Bank decision.

8

In addition to concluding that claims 1 through 18 are directed towards non-statutory subject matter under 35 U.S.C. § 101, the Examiner rejects claims 1 through 18 as being anticipated by Agrawal under 35 U.S.C. § 102(b). Agrawal discusses improvements to multi-dimension data processing using a multidimensional database ("MDDB" or "data cube") model. Col. 1, lines 21-36. Data elements in a data cube are analyzed, and an expected value is calculated for each data element using trends that are common to data elements within a given row, a given column and all data elements within the cube. Col. 7, lines 37-46. The actual value of the data element is thereafter compared with the expected value of the data element to calculate a surprise value. Col. 7, lines 49-53. Data elements with a surprise value exceeding a predetermined threshold, indicating a data anomaly, are highlighted Col. 2, lines 40-44 and Col. lines 47-52

By contrast, independent claim 1 describes a method for recognizing and flagging a data item used by one or more application programs as falling within the scope of a rule but anomalous when compared with other data items falling within the scope of the rule. The method of independent claim 1, and the claims dependent thereon, comprise determining a collection to which a data item belongs as defined by a rule. Statistics are calculated for the other data items in the collection and it is identified whether the data item is an anomalous data item based on the statistical calculations. If the data item is identified as an anomalous data item, the data item is flagged. Independent claim 10 is directed towards computer readable media comprising program code, the program code instructing a programmable computer to execute the method of claim 1.

In contrast to the Examiner's assertion, Agrawal does not discuss, teach or otherwise suggest determining a collection to which a data item belongs as defined by a rule. The Examiner asserts that a "rule is disclosed in the reference by selecting cells with relatively greater intensity coloring." Office Action, p. 8. The Examiner thus attempts to equate the selection of highlighted cells, as discussed in Agrawal, with the presently claimed method for determining a collection to which a data item belongs as defined by a rule. The highlighting intensity levels discussed in Agrawal, however, provide an indication of the surprise value associated with a given cell in a data cube. Col. 4, lines 47-52, Col. 4, lines 53-56 and Col. 4, lines 63-66.

The highlighting of a given cell is performed for the purpose of "guiding a user to interesting regions in a data cube" to allow a user to "quickly identify exceptional values." Col. 2, lines 29-33 and Col. 5, lines 19-23. Thus, the selection of a given cell is performed by a user that is directed to the cell based upon the highlighting intensity of the cell. Selection of a cell by a user, however, does not determine a collection to which the cell belongs as defined by a rule. Selection of a cell by user merely allows the user to further explore the data associated with the cell. Col. 5, lines 4-6 and Col. 5, lines 13-16. As discussed in Agrawal, selection of a cell allows a user to "drill-down" along a "pre-mined path." Col. 2, lines 19-23 and Col. 5, lines 13-18. Selection of a cell, however, does not determine a collection to which a data item belongs as defined by a rule.

In addition to the foregoing, the data cubes discussed in Agrawal comprise preexisting datasets maintaining aggregated data. Col. 2, lines 12-15 and Col. 2, line 28-32. As noted in Agrawal, a Microsoft Excel spreadsheet may provide a graphical user interface for the aggregated data in a data cube. Col. 4, lines 18. Agrawal, however,

10

does not determine a collection to which a data item belongs as defined by a rule.

Agrawal simply locates data anomalies in a data cube comprising aggregated data for a

period of time, for one or more products, etc.

The identification of anomalous data elements, as discussed in Agrawal, is

performed on data categorized and maintained by a data cube. Agrawal, however, does

not discuss, teach or otherwise suggest determining a collection to which a data item

belongs as defined by a rule. Instead, Agrawal analyzes preexisting aggregated data

maintained in a data cube to identify anomalous data elements and direct a user to such

anomalous data elements. Col. 2, lines 29-33. In contrast, independent claims 1 and 10

describe determining a collection to which a data item belongs as defined by a rule.

While Agrawal discusses identifying an anomalous data element, Agrawal does not

discuss a rule for determining a collection to which a data item belongs. Consequently,

Agrawal fails to teach or otherwise suggest the elements of independent claims 1 and 10.

Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 1 and
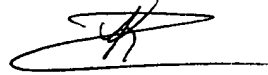
10 and allowance of the same.

The dependent claims of the present application contain additional features that

further substantially distinguish the invention of the present application over the art of

record. Given the Applicant's position on the patentability of the independent claims,

however, it is not deemed necessary at this point to delineate such distinctions.

For the above reasons, the Applicant submits that the present invention, as

claimed, is patentable over the references cited by the Examiner. Accordingly,

reconsideration and allowance of pending claims 1 through 19 is therefore respectfully

11

solicited. To expedite prosecution, the Examiner is invited to contact the Applicant's

representative at the number below.

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Respectfully submitted,

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I hereby certify that this paper and any accompanying papers referenced herein are being deposited this date with the U.S. Postal Service as First Class Mail with sufficient postage addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

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